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FOREWORD

Proceedings (Part II) of the 5th Biennial Conference of the Physics Academy of the North East (PANE) held at Department of Physics, Gauhati University, Guwahati-781 014, Assam, India during March 1-2, 2007.

The conference was inaugurated by Prof. A. Choudhury, Vice Chancellor, Gauhati University followed by a key note address on "Use of Low Energy Accelerator" by Prof. Amit Roy, Director of the Inter University Accelerator Centre, New Delhi. The inaugural ceremony was presided over by Prof. A. Rahman, Head, Department of Physics, Gauhati University. The conference received a large number of contributions on various topical areas of physics. Altogether, 113 research contributions had been accepted for presentation of which 76 papers were finally presented in the form of poster and oral presentation. Total 175 delegates from the North East India as well from other parts of the country participated in it. It was a wonderful experience for the teachers and students community of the university to be with such a distinguished gathering of physicists and enthusiastic young research scholars.

Keeping the tradition of earlier conferences of the series, Professors J. Hatibarua, B.K. Barua and T.D. Goswami, the three distinguished and senior physicists of North East India were felicitated in the conference for their life long contribution to research and teaching in physics.

The history of the PANE spans little less than a decade. It was inaugurated formally by renowned Physicist Prof. G C Deka on April 6, 1998 in the premises of IIT, Guwahati with the aim of promoting basic research and physics education in North East India, besides Providing a platform of interaction among different groups of physicists working in different corners of North East India. The genesis of the academy can be traced to a seminar celebrating the hundred years of the discovery of electron held at IIT, Guwahati on November 11, 1997 when a small group of enthusiastic physicists of North East India led by Prof. K M Pathak and Y V G Murti gave a call to start such an organization.

With these objectives, PANE organized the first conference of physics research at IIT, Guwahati during 1998, to be followed by the similar ones in Cotton College (2000), Dibrugarh University (2002) and G.C. College, Silchar (2004). The keynote speakers of these earlier conferences include persons like Prof. J.V. Narliker, Prof Asoke Sen (FRS), Prof. S. Duttagupta and Prof. K. D. Krori.

On physics education sector, the academy arranged a workshop on new models of Post Graduate Programmes of physics at Tezpur University during 1999 followed by another on a theme "Physics Education in Undergraduate and Postgraduate levels now requires some Need Based Orientation" in the year 2005 jointly held at Gauhati and Dibrugarh University.

The Academy has also been awarding talented young research scholars for their best presentations in the conferences since 2004. They include Ms. R. Gogoi, Mr. S. Sengupta, Mr. P. Nath of Gauhati University and Mr. J. Choudhury of Assam University, Silchar.

We are thankful to the members of the advisory and organizing committees for their valuable suggestions for planning various aspects of the conference. We are also thankful to all the students and non-teaching members of this department for their significant contributions in organizing the conference. We acknowledge with gratitude the financial assistance of Gauhati University; DST, New Delhi; CSIR, New Delhi; BRNS, Mumbai; ASTEC, Guwahati; UCIL, Shillong; Bipin Pal Das Trust and Amiya Bala Bhattacharjee Trust. We express our heartfelt thanks to all the concerned persons at the respective funding agencies. We express our deep gratitude to the Vice Chancellor of Gauhati University for providing all possible help and constant guidance in holding the conference here at Gauhati University.

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